Name and brief description of initiative:
cancer Biomedical Informatics Grid™ (caBIG<u>TM</u>)
caBIG^{TM} is a collaborative initiative of the National Cancer Institute that includes cancer centers, researchers, others in the cancer community and relevant stakeholder organizations—including industry. caBIG™ is developing an information network that connects data, research tools, scientists and organizations to an open environment and shared infrastructure with common standards. Built on the principles of open source, open access, and open development and federation, caBIG^{TM} is open to all who can benefit from the information accessible through its shared environment.

Brief description of goals of initiative:
 The goal of caBIG™ is to provide an informatics infrastructure that supports a collaborative network among the cancer and biomedical research communities. The implementation of standards-based software and network architecture enables greater connectivity and information sharing across the entire spectrum of the cancer community, supporting the development of new types of analysis within and across experiments and promoting new forms of collaboration. The infrastructure and tools of caBIG™ are widely applicable beyond the cancer community.

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Website address of initiative:
https://caBIG.nci.nih.gov

Brief description of biomedical informatics and computational biology components and their goals:
caBIG is developing modular, interoperable and standards-based tools across the following areas: clinical trials management systems, in vivo imaging, tissue banks and pathology tools, and integrative cancer research. It is also developing cross-cutting architectural standards and standards for the representation of ontologies and vocabularies.

Brief description of resources and tools available for sharing:
In its first 2 years, caBIG^{TM} launched over 90 individual projects including: caARRAY and genePattern, providing microarray tools at both ends of the process; caIntegrator, an informatics tool designed to integrate clinical trials and high throughput molecular analysis to support translational research and the transition to tailored therapy; caWorkbench, providing analysis capabilities for molecular pathways; caTIES, caTISSUE CORE and Clinical Annotation Engine, a set of tissue banking tools that can be used to track and mine tissue samples; and the Cancer Central Clinical Data suite of clinical trials management tools for managing clinical research data across sites and time, including key functions like adverse event reporting.

Anyone can download any desired software from the caBIG™ Web site. Tools are listed on the Inventory of Tools page at https://cabig.nci.nih.gov/inventory. caBIG™ applications are released under a non-viral open source license; and can be incorporated into derivative works by both commercial and non-commercial entities. During the 2006 calendar year, 40-plus new products are expected to be delivered, to include biomedical tools and datasets, as well as white papers, policies, guidelines and training materials. As products .are completed, they become available on the caBIG™ Web site at https://cabig.nci.nih.gov

Brief description of integrative efforts:
caBIG™ promotes and enables integrative efforts at many levels. At the fundamental infrastructure level, caBIG™ is developing common data elements, vocabularies, ontologies, security models, and other components that are applicable outside of cancer research and are freely available. In specific domains, modular software is designed to be 'plug and play.' caGrid is the underlying network infrastructure that enables computers at different sites to integrate their functions and share data. The test bed release of the grid architecture is now available and version 1.0 will be released in the Fall.

caBIG™ promotes interoperability between computer systems from organization to organization—or even within an organization. caBIG™ compatibility guidelines guide the development of caBIG™ software and systems. Organizations with tools and systems developed outside caBIG™ who are interested in becoming interoperable with caBIG™ are encouraged to study the guidelines and stay informed of plans for certification.

Opportunities for collaboration or synergy with the NCBCs:
Opportunities for collaboration and synergy between the caBIG™ enterprise and NCBCs include the following:
- Leverage the interoperable infrastructure of caBIG™ to share needed resources and products
- Evaluate the resources and informational tools provided by the caBIG™ community to see how they can assist the NCBCs and/or contribute to the network.
- Review training resources, informational workshops, and other tools designed to facilitate broader participation and exchange
- The National Center for Biomedical Ontologies can contribute to efforts to build out vocabularies that support cancer and other diseases.